

# REVIEWS OF BOOKS

## GENETICS

**Fisher, Ronald A.** *The Theory of Inbreeding*. Edinburgh and London, 1949. Oliver & Boyd. Pp. 120. Price 10s. 6d.

ALTHOUGH systematic inbreeding has been practised to a limited extent by plant and animal breeders for many years there has been remarkably little quantitative investigation of the consequences to be expected from various methods of mating, or of the proper place of inbreeding and inbred lines in genetical investigations and practical plant and animal improvement. Professor R. A. Fisher's book on the subject is therefore particularly welcome, and is also very opportune at the present time, when the success of hybrid corn (maize) in the United States is coming to be fully appreciated and is acting as an increasing stimulus to the extension of inbreeding to other agricultural plants and animals.

The book is written for the genetical specialist. In the compass of 120 pages a complete theory of inbreeding is developed. The development is essentially practical, and the numerical approach so characteristic of the author is continuously followed. Mathematics appears, not for its own sake, but in order to provide solutions of the quantitative problems of practical importance. Consequently the geneticist who is not mathematically trained can still understand the book, provided he is prepared to rework the numerical results for himself. At the same time the mathematician can admire the elegance and simplicity of the formal treatment of the problem.

The scope of the book may best be indicated by stating that it sets out to provide answers to the questions on the number of animals that require to be bred to preserve segregating inbred lines, the rate at which inbred lines progress towards homozygosity, and the relative advantages of different

systems of inbreeding. Polysomic as well as disomic organisms are dealt with.

Within a monograph of this size there is scarcely room for any full discussion of the practical implications of inbreeding. Nevertheless various sections, in particular the introduction, the section on the uses of inbred lines and the appendix on the function of inbreeding in animal and plant improvement, contain between them a very complete picture of the ways in which inbreeding fits into practical breeding policy and the benefits that may be expected from its adoption. We may, however, hope that the author will in the near future paint on a larger canvas and give us a further treatise on genetics and evolution on the lines of his work, *The Genetical Theory of Natural Selection*, written twenty years ago.

F. YATES.

**Richens, R. H.** *Lysenko : The Scientific Issue*. The New Biology, No. 8, April 1950. Penguin Books. Price 1s. 6d.

THIS article gives an account in plain language of what Lysenko and his followers claim to be new discoveries in the fields of genetics and plant physiology, and of their polemic against the science of genetics as upheld by workers outside the Soviet Union. The writer, though not himself engaged in genetical research, has been a careful student of the relevant literature published in the Soviet Union, and he has marshalled the Russian case with great moderation.

He first treats of the factual basis of the new Soviet genetics, together with the conclusions, both theoretical and practical, at which Russian workers have arrived. He then passes on to their criticisms, usually violent and unrestrained, when not naïve, of the genetical theories accepted outside the Soviet Union. And, let it be said, certainly held inside the Soviet Union by some